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मानक

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IS 13031 (1990): Shaving systems - Twin blade cartridges
[PGD 14: Consumer Products and Allied Equipments]



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“Knowledge is such a treasure which cannot be stolen”

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REAFFIRMED 2001

IS 13031 : 1990

भारतीय मानक

शेविंग तंत्र—दोहरे ब्लेड के कार्ट्रिज — विशिष्ट

Indian Standard

SHAVING SYSTEMS —
TWIN BLADES CARTRIDGES — SPECIFICATION

UDC 687.53.052

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1991

Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 10 May 1990, after the draft finalized by the Fasteners for Consumer Goods and Hair Cutting, Shaving, Shearing and Allied Equipments Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

The razor blade industry has been feeling the need for a National Standard covering the requirements for stainless steel twin blade cartridge for shaving due to its increasing demand in the export market and popularity among the consumers in view of safety and smooth shaving.

AMENDMENT NO. 2 JULY 1993
TO
IS 13031 : 1990 SHAVING SYSTEMS — TWIN BLADES
CARTRIDGES — SPECIFICATION

(*Page 2, Fig. 1*) — Add the following note below the informal table given under Fig. 1 :

‘NOTE — The effective shaving angle of the top blade A_T shall be maintained less than the effective shaving angle of the bottom blade A_B ’

(LM 15)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 1 APRIL 1993
TO
IS 13031 : 1990 SHAVING SYSTEMS — TWIN BLADES
CARTRIDGES — SPECIFICATION

(*Page 2, Fig. 1*) — Substitute the following dimensions for the existing dimensions in the informal table in Fig. 1:

	<i>A</i>	<i>P_T</i>	<i>P_B</i>	<i>A_T</i>	<i>A_B</i>	<i>S_L</i>	<i>S_p</i>
<i>Max</i>	40.20	0.10	0.10	27°	30°	7.35	20.10
<i>Min</i>	39.30	—	—	21°	23°	7.10	19.20

(*Page 2, clause 7.1*) — Delete the words 'flexibility of blade'.

(*Page 3, clause 9.1, line 1*) — Delete the words 'of 5 blades'.

(LM 15)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SHAVING SYSTEMS — TWIN BLADES CARTRIDGES — SPECIFICATION

1 SCOPE

1.1 This standard covers requirements for Twin Blade Cartridges which is assembly of two plastic components, two stainless steel blades and a spacer inside made of either aluminium or plastic material used for shaving purposes.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
737 : 1986	Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes (<i>third revision</i>)
2267 : 1972	Polystyrene moulding materials (<i>first revision</i>)
7371 : 1982	Stainless steel safety razor blades (<i>second revision</i>)
9294 : 1979	Cold-rolled stainless steel strips for razor blades

3 TERMINOLOGY

3.1 For the purpose of this standard the following definitions shall apply (*see* Fig. 1A and 1B).

3.2 Protrusion of Top Blade (P_T)

A reference line which extends from the cutting edge of the bottom blade to a tangent point on the surface of the top cap and the perpendicular distance that the cutting edge of the top blade remains beyond from the reference line is known as the protrusion of top blade.

3.3 Protrusion of Bottom Blade (P_B)

A reference line which extends from the cutting edge of the top blade to the tangent point of blade seat serration bar arc and the perpendicular distance of the cutting edge of the bottom blade which extends beyond this line is known as protrusion of bottom blade.

3.4 Effective Shaving Angle or Tangent Angle of Top Blade (A_T)

It is the angle between a reference line which bisects the included angle of the cutting edge of top blade and the line that extends from the cutting edge of top blade to the cutting edge of the bottom blade.

3.5 Effective Shaving Angle or Tangent Angle of Bottom Blade (A_B)

It is the angle between the reference line which bisects the included angle of cutting edge of the bottom blade and the line that extends from the bottom blade to tangent point on seat serration arc.

3.6 Groove Width for Razor Head Slide (S_L)

It is the width between which the razor head of the sliding type razor is inserted (*see* Fig. 1A).

3.7 Swivel Pivot Distance (S_P)

It is the distance between the two pivots to admit swivel type razor head (*see* Fig. 1B).

4 TYPES

4.1 The twin blade cartridges shall be of the following types, depending upon the type of the razor used for shaving:

- Sliding Type*—Razor handle placed in the groove at the rear side of the cartridge by sliding.
- Swivel Type*—Swivel razor pivot placed in the locator at the rear side of cartridge.
- Universal Type*—The cartridges shall be loaded with both sliding and swivel type razors.

5 MATERIALS

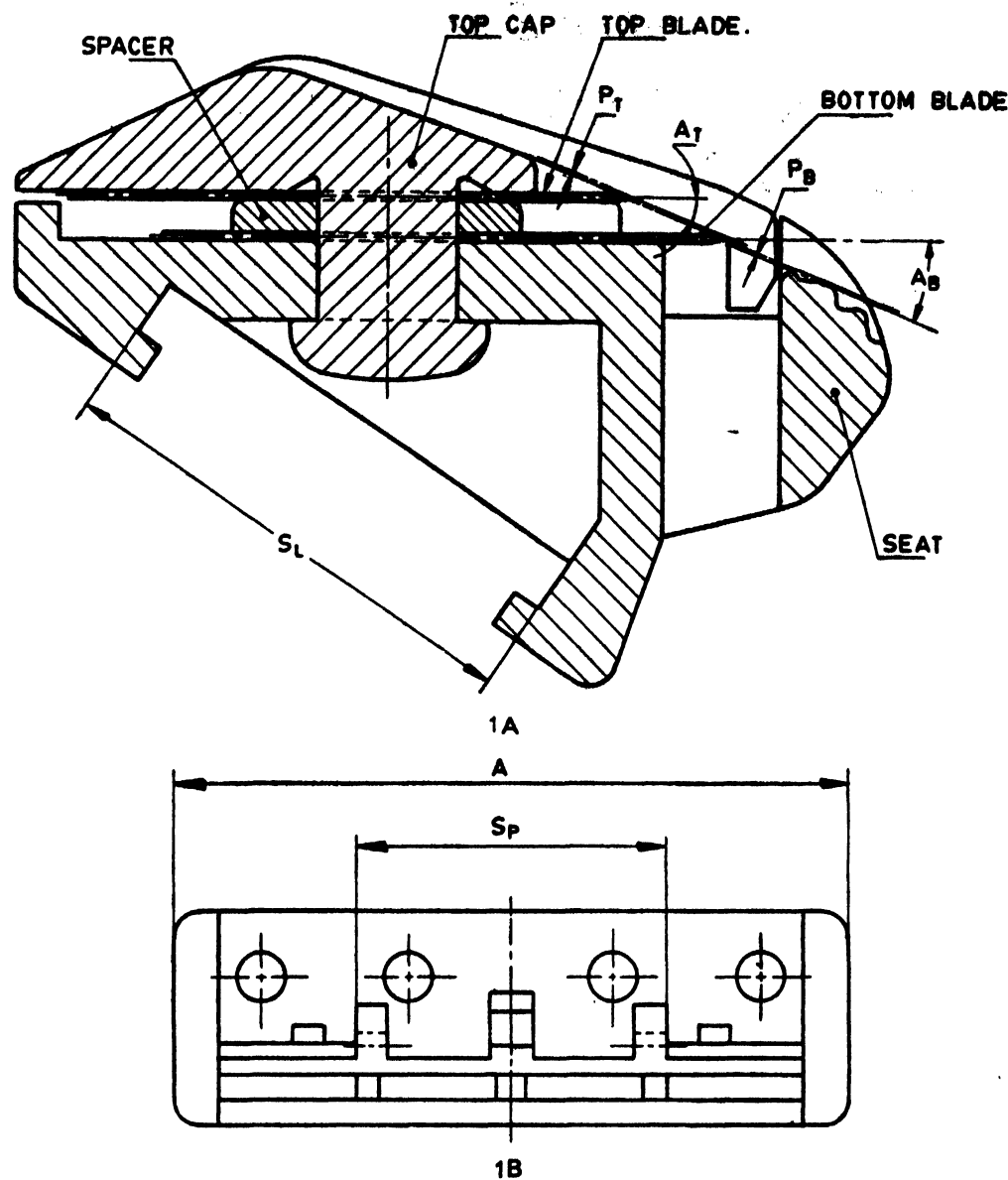
5.1 The materials used in the manufacture of different parts of the twin blade cartridge shall be such that they would ensure good performance.

5.2 Materials used for the various components shall be as under:

Component	Material	Reference to IS
a) Top and bottom blades	Cold rolled stainless steel strip; medium, 0.10 ± 0.005 mm thickness	IS 9294 : 1979
b) Top cap; seat; spacer	High impact polystyrene; Type 3	IS 2267 : 1972
c) Spacer, if of aluminium	Aluminium alloy strip; 0.5 ± 0.02 mm thickness	IS 737 : 1986

6 SHAPE AND DIMENSIONS

6.1 The general shape and dimensions of the cartridge shall be as shown in Fig. 1.



	A	P _T	P _B	A _T	A _B	S _L	S _P
Max	40.20	0.10	0.10	27°	30°	7.35	19.80
Min	39.80	—	—	21°	23°	7.10	19.20

All dimensions in millimetres

FIG. 1 ASSEMBLED CARTRIDGE

7 WORKMANSHIP AND FINISH

7.1 All parameters of the blade edge, such as cutting edge, straightness and parallelism, flexibility of blade, final bevel angle of cutting edge, hardness and anti-corrosiveness shall conform to IS 7371 : 1982.

8 TEST FOR FINISHED CARTRIDGE

8.1 Measurement of Protrusion and Shaving Angle

The geometry of the cartridge shall be measured using a suitable equipment that projects relative locations of the components.

8.2 Microscopic Examination

Oil, grease, protective film and other adherent particles should be removed from the cutting edge of the blades by any suitable means which shall not damage the blade edge and shall be placed under microscope at 100 × with proper illumination. The size of nicks greater than 0.01 mm shall be counted on the entire blade and average number of nicks per blade should not be greater than 3.0.

8.3 Razor Sliding Groove Width/Swivel Pivot Distance Test

This test is to be carried out with a suitable gauge. The gauge shall move into the cartridge

with light hand pressure. The shape of the gauge is like a sliding type razor head having thickness of 0.6 mm.

8.4 Rivetting

Rivetting should be firm and rigid and after 25 loadings and unloadings all critical dimensions of the blade shall be maintained and performance requirements shall be met.

8.5 Performance Test

When tested in accordance with method given in Appendix B of IS 7371 : 1982, the cartridges should give at least 8 shaves.

9 MARKING

9.1 Each pack of 5 blades should contain the following information:

- a) Indication of source of manufacture,

- b) Trade-mark,

- c) Batch number or manufacturing date, and

- d) Instruction for use.

The dispenser should suitably indicate the source of manufacture.

10 PACKING

10.1 The packing shall be in accordance with the acceptable trade practices or as agreed to between the supplier and the purchaser.

11 SAMPLING

11.1 Sampling and acceptance criteria for twin blade cartridges shall be as agreed to between the purchaser and the supplier.

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